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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,276	06/29/2001	Michael V. DiBiasio	112025-0478	7993

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EXAMINER

AHMED, FAROOQUE

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,276

Applicant(s)

DIBIASIO ET AL.

Examiner

Farooque Ahmed

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/31/02-02/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the application filed 06/29/2001. Claims 1-21 are pending. Claims 1-21 represent SYSTEM AND METHOD FOR RECOGNIZING APPLICATION-SPECIFIC FLOWS AND ASSIGNING THEM TO QUEUES

2

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

3. Claims 1,2,4,6,10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen et al. US Patent No. 6,640,248 in view of REF McClohire et al. US Patent No. 6,286,055

Jorgensen teaches the invention substantially as claimed include a system with a QOS, MAC layer in application resources allocator where it allocates bandwidths recourse with an Ip flow.(see abstract)

AS to claim 1, Jorgensen teaches an intermediate network device for use in a computer network having a plurality of entities configured to issue requests to reserve network resources for use by traffic flows, the reservation requests specifying one or more flow perimeters, the intermediate network device comprising:

a traffic scheduler having one or more network resources for use in forwarding Network traffic received at the device at different rates (see col. 3, lines 45-67; col 20, lines 8-14, Jorgensen disclose MAC layer with CPE. The resource allocator schedules bandwidth resources to an ip where a bandwidth resource is wireless bandwidth);

a classification engine configured to identify network messages belonging to respective traffic flows based upon predefined criteria (see col 36, lines 10, Jorgensen disclosed ATM switch where it discriminate between voice video and data traffic in network traffic);

a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine, the resource reservation engine including a flow analyzer (see fig 6; col 48, lines 45-67; col 50, lines 9-67, Jorgensen disclose advance reservation algorithm for use in scheduling traffic and Ip flow analyzers classification);

Jorgensen teaches the flow analyzer, (see col 54, lines 8-67, Jorgensen disclosed Ip flow analyzer perform the function on fame scheduler).

Jorgensen fails to teach one or more sets of predefined heuristics that are accessible and one or more flow parameters specified in the reservation requests.

However McCloghrie teaches one or more sets of predefined heuristics that are accessible and one or more flow parameters specified in the reservation requests. (See col 5, lines 1-41 McCloghrie disclose declaration flow component with local policy enforce and policy and path of the reservation message).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in the view of McCloghrie where policy specified by policy server in flow analyzer path of the reservation.

Jorgensen teach a queuing algorithms are used in Ip traffic RASP (see col 45 3-60).

Jorgensen fail to teach one or more sets of predefined heuristics, and a queue and/or a queue-servicing algorithm for assignment.

However McCloghrie teaches the one or more sets of predefined heuristics, and a queue and/or a queue-servicing algorithm for assignment (See col 5 lines 1-40; col 7lines 1-15, McCloghrie disclose flow declaration and transmit one or more application parameter with policy server path of the reservation).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in view of McCloghrie where queuing algorithm are used in Ip traffic RASP policy specified by policy server in flow analyzer path of the reservation.

As to claim 2, Jorgensen teaches the network device as recited in claim 1, wherein the classification engine is directed to identify network messages belonging to the traffic flow, and see col 36 lines 10 Jorgensen disclosed ATM switch where it discriminate between voice video and data traffic in network traffic).

the traffic scheduler is directed to place network messages identified as belonging to the traffic flow in the selected queue (see col 3 lines 40-67; col 4 lines 1-18; see col 50 lines 8-40).

As to claim 4, Jorgensen teaches the network device as recited in claim 3, a respective traffic flows carry real-time voice information, and traffic flows that are determined to carry real-time voice information are assigned to the PQ. (See col 36 lines 5-28; col 38 lines 28-34; col 44 lines 20-45 col 51 lines 11-55 Jorgensen teaches real-time voice information in Ip traffic).

Jorgensen fails to teach first set of heuristics is provided.

However McCloghrie teaches teach first set of heuristics is provided (see abstract; col 5 lines 1-40 McCloghrie disclosed one or more application parameter with policy server and policy).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in the view McCloghrie one or more selection in policy and provide a real-time voice information directed to PQ.

As to claim 6, Jorgensen teaches the network device as recited in claim 4, the resource reservation engine utilizes the Resource reservation Protocol (RSVP) specification standard (see col 43 lines 25-60; col 50 lines 25-40, Jorgensen disclosed);

the flow parameters are located in a RSVP Reservation (Resv) message received by the device.(see col 43 lines 25-60);

As to claim 10, Jorgensen teaches the network device as recited in claim 4, a reserved queue is selected for each traffic flow (see col 60 lines1-36 Jorgensen disclosed Ip packet flow queue for reservation and are scheduled);

Jorgensen fails to teach first set of heuristics

However McCloghrie teaches a teach first set of heuristics (See col 5, lines 1-40 McCloghrie disclosed flow declaration and transmit one or more application parameter with policy server).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in the view McCloghrie one or more selection queue does not clarify in policy respect to flow a real-time voice information.

Jorgensen does teach Weight Fair Queuing Weight Fair Queuing and reserved queues (See col 17 lines 56-67 see col 60 lines1-36).

Jorgensen fail to teach the limitation of queue servicing algorithm is applied to the reserved queues.

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen by specifying with selected Weight Fair Queuing applying to reserved queue in flow analyzer selection.

As to claim 11, Jorgensen teaches the network device as recited in claim 2, wherein the flow analyzer, in response to the application of the one or more sets of heuristics, associates a selected Per-Hop Behavior (PHB) with the traffic flow corresponding to the reservation request. (See col 43 lines 5-54; col lines 10-45, Jorgensen disclosed Ip flow analyzer where communication application reserved for bandwidth request with router hope).

As claim 12 doesn't teach and define any new limitation above claim 1,2,4,6,10-12 and there fore are reject similar reason.

Claims 3,5,7,19,21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jorgensen et al. US Patent No. 6,640,248 in view of REF McClohire et al. US Patent No. 6,286,055 in further view of Marin et al. patent no 6,088,734.

As to claim 3, Jorgensen teaches the network device as recited in claim 1. Jorgensen fails to teach the selected queue is one of a priority queue (PQ) and a reserved queue and the PQ is drained before any other queues.

However Marin teach high priority queue or main queue where high priority buffer are empty before main queue (see fig 10 col 4 lines 24-60 col lines 12 lines, 10-51)

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in the view of Marin to add priority queue with main queue in flow analyzer selection can perform same functionality.

As to claims 5,7,19,21 Jorgensen teaches the network device as recited in claim 1.

Jorgensen fails to teach wherein the flow parameters include one or more of an average data rate, a peak data rate and a token bucket rate; parameters include one or more of a token bucket rate (r) value, a token bucket size (b) value and a Peak data rate (.p) value.

However Marin teaches and maximum data rate peak data rate (see col 2 lines 5-10 col 3 lines 15-20)

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify Jorgensen in the view of Marin to add peak rate and maximum rate in flow analyzer as selection of these parameters.

Claims 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClohire et al. US Patent No. 62860552

McCloghrie teaches the invention substantially as claimed include a system that traffic flow and QOS are Applying service treatment to flow (see abstract)

AS claim 13, McCloghrie teaches a computer network having a plurality of entities interconnected by a plurality of intermediate network devices having one or more resources for use in forwarding network traffic flows, a method for assigning queues and/or queue servicing algorithms to the traffic flows, the method comprising the steps of:

receiving a reservation request message specifying one or more flow parameters and a given traffic flow(see col 43 lines 24-45, col 60 lines 1-67 Jorgensen disclosed reserve bandwidth with low and high queue);

a applying one or more sets of heuristics to the flow parameters of the received reservation request message(see col 5lines 1-41, McCloghrie teaches policy server where one and more path reservation message;

selecting a queue and/or a queue servicing algorithms for use the given traffic flow based on the application of the one or more sets of heuristics. (See col 7 lines 1-51 McCloghrie disclosed policy server traffic flow where one and more entities with and /or queue interface with policy server);

McCloghrie fails to teaches a servicing algorithms

However Jorgensen teaches servicing algorithms (see abstract; col 45 lines 14-45 Jorgensen teaches queue servicing algorithms).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify McClohire in the view of Jorgensen where selecting queuing algorithms function is applied in one or more policy in Ip traffic flow.

As to claim 20, Jorgensen teaches the network device as recited in claim 13.

wherein the reservation request message corresponds to a Reservation (Resv) message as provided in the Resource reservation Protocol (RSVP) specification standard. (See col 5 lines 1- 40 McClohrrie disclosed Reservation message originally specified in Resource reservation Protocol (RSVP).

Claims 16,18,are rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Jorgensen et al. US Patent No. 6,640,248 in view of REF

As to claim 16, McClohrrie teaches the network device as recited in claim 13. a first set of heuristics is provided for determining whether the respective traffic flows carry (see col 5 lines 1-40 McClohrrie disclosed one or more parameter to local policy enforce respect to Ip traffic flow).

McClohrrie fails to teach limitation real-time voice information.

However Jorgensen teach real-time voice information in Ip traffic. (See col 36 lines 5-28; col 44 lines 20- 45 col 51 lines 11 –55).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify McClohrrie n in the view Jorgense where one or more selection in policy and provide a real-time voice information directed to PQ.

McCloghrie teaches a based on the first set of heuristics, is assigned to a priority queue (PQ) that is drained before all other queues (see col 5 lines 1-40; col 7 lines 1-51, McCloghrie disclosed one or more parameter to local policy enforce respect to lp traffic flow).

McCloghrie fails to teach a given traffic flow that is determined to carry real-time voice information.

Jorgensen teaches real-time voice information in lp traffic with priority class queue. (See col 36 lines 5-28; col 44 lines 20- 45, Jorgensen teaches real-time voice information in lp traffic).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify McCloghrie n in the view Jorgense where one or more selection in policy and provide a real-time voice information directed to PQ.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCloghire et al. US Patent No. 62860552 in view of Jorgensen et al. US Patent No. 6,640,248 REF in further view of Galand

As to claim 17, Jorgensen teaches the network device as recited in claim 14.

McCloghrie fails to teach method wherein each traffic flow that is determined to carry other than real-time voice information is assigned to a selected reserved queue.

However Galand teaches real-time voice information where reserved queue is served (see col3 lines 50-65).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify McCloghrie in the view of Galand to add real-time voice information with selected reserved queue in flow analyzer selection.

As to claim 18, Jorgensen teaches the network device as recited in 17 claims.

Comprising the step of applying a Weight Fair Queuing (WFQ) queue-servicing algorithm the reserved queues. (See col 17 lines 56-67).

Jorgensen fails to teach the reserved queues.

However Galand teaches real-time voice information where reserved queue is served. (See col3 lines 50-65).

Therefore it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify McCloghrie in the view of Galand with selected Weight Fair Queuing and reserved queue in flow analyzer selection.

4. Claims 8, 9-14,15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8, 9 and 14,15 are objected to because the prior art of record fails to teach or suggest formula of $(r < r')$ AND $(B < B')$ AND $P/R < p_TO_r'$ wherein flow parameter are claim token bucket rate(r) token bucket size (b) and peak rate (p).

Art Unit: 2157

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farooque Ahmed whose telephone number is 703-605-4212. The examiner can normally be reached on M-F 8:30 to 5:00

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703) 308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Farooque Ahmed/Examiner
Art Unit 2157


MOUSTAFAM. MEKY
PRIMARY EXAMINER